

REMARKS

Claims 1-24 and 26-33 are pending in the application, claim 25 being canceled herein. Claims 1, 7, 13, 17, 26, 27 and 33 are the only independent claims.

Drawings

The drawings stand objected to under 37 C.F.R. § 1.84(p)(4) because the reference numeral “406” has been used to designate both a magnifying glass and a printed fixation image.

In response to the objection to the drawings under 37 C.F.R. § 1.84(p)(4), applicants enclose herewith a replacement sheet containing Figure 4B wherein the reference numeral 406 designating a printing fixation image has been replaced with reference numeral 408.

The drawings also stand objected to under 37 C.F.R. § 1.83(a) as failing to show every feature set forth in the claims. In particular, the Examiner indicates that the limitation “moving said light source between said display and said eye” in claim 30 is not shown in the drawing.

In response to this objection to the drawing, applicants note that claim 30 has been amended herein to provide a clearer recitation of the particularly claimed subject matter. Claim 30 now recites the limitation of “moving said light source from a position between said display and said eye to a position not between said display and said eye.” This subject matter is depicted in Figure 5, by means of an arcuate dashed arrow.

Claims Rejections - 35 U.S.C. § 112

Claims 13-20 and 24-32 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention. The Examiner specifically maintains that that independent claims 13, 17, 26, and 27 do not describe a “method of testing the visual field of a patient” as set forth in the preamble of claim 13. The Examiner more particularly observes that the lack of a result to determine the visual field test renders the claims indefinite.

In response to the rejection of claims 13-20 and 24-32 under 35 U.S.C. § 112, second paragraph, independent claims 13, 17, 26 and 27 have been amended to recite steps of recording the patient’s responses to the test images (already in original claim 13) and analyzing the patient’s response to the test images to map scotomas of the patient’s visual field.

Pursuant to this amendment, claims 13-20 and 24-32 now describe a “method of testing the visual field of a patient” as set forth in the preambles of independent claims 13, 17, 26 and 27.

It is to be noted that the language added to independent claims 13, 17, 26 and 27 was extracted in part from dependent claim 21, which the Examiner did not reject under § 112, second paragraph.

Claims Rejections - 35 U.S.C. §§ 102 and 103

Claims 13-20, 24, 26, 27, 31, and 32 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,933,210 to Ron.

Claims 25, 27, and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,550,602 to Braeuning.

Claims 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Braeuning in view of U.S. Patent No. Re 28,921 to Haines.

The Examiner has allowed claims 1-12 and 33 and indicated that claims 21-23 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Claim 13 As set forth in claim 13, a method for testing the visual field of a patient comprises (a) generating on a test display area a series of test images at different points of the patient's visual field, (b) recording the patient's responses to the test images, (c) during the generating of the test images, generating, on a pair of spaced display areas, two binocularly displaced images of a fixation object so that the fixation object appears to the patient to be three dimensional and in motion, and (d) analyzing the patient's response to the test images to map scotomas of the patient's visual field.

Neither Ron nor Braeuning discloses or suggests a method for testing the visual field of a patient wherein test responses of the patient are analyzed to map scotomas of the patient's visual field. The methods of Ron and Braeuning do not produce test data that can be analyzed to map scotomas of the patient's visual field.

Ron's invention is directed to measuring something called "dark vergence" with two eyes, not visual field tests. The underlying purpose of Ron's invention is to prescribe special prism glasses that let a patient look at a computer screen for a long time without fatigue. The fatigue comes from muscles aligning the two eyes to each other, and the invention measures the independent alignment of the eyeballs when the muscles are relaxed, so that prisms in the glasses can adjust to that relaxed alignment.

The patent examiner talks about his stimuli in "the visual field of the Patient." However, Ron does not use the words "visual field" anywhere, and if he does, it just means that the stimulus is disposed in front where the patient can see it. Ron does not

mean "visual field" in the sense of a test of what areas are blind because of disease. All of the stimuli in Ron's method are close to the patient's center of vision, since the invention proposes to provide glasses for reading.

The purposes of presenting different images to the two eyes of a patient are different in applicants' invention and Ron's invention. Ron shows two images to compare the brightness, so the patient can say when they look the same, and to move one (pixel by pixel) in the display so it lines up with the other in the patient's brain, to measure the angle between the eyes.

Pursuant to applicants' invention, one shows different images just to create 3D depth to the image, and the purpose of that is to maintain fusion so one eye will always stay with the other. Ron does not want fusion; rather he wants the eyes to go to where they are comfortable. Ron's two images are not 3-D offsets of each other: they are segments of a line where the segment from one eye fills in the missing gap in the other eye's segment.

Claim 13 further distinguishes over the prior art particularly as represented by Ron for the reason that Ron does not disclose or suggest generating, on a pair of spaced display areas, two binocularly displaced images of a fixation object. Moreover, Ron neither discloses nor suggests generating a fixation object that appears to the patient to be three-dimensional and in motion. The only mention of motion in Ron's patent is moving one image pixel by pixel to line up with the one in the other eye. Applicants' animation is intended to keep the patient alert, and it also serves to vary the image on the back of the retina and prevent "burn-in" that makes a continuous image disappear over time. Burn-in tempts the patient to moves his eyes for the fixation target to be visible again.

Claim 17 Claim 17 is directed to a method for testing the visual field of a patient, comprising (i) presenting stereoscopic or binocularly displaced fixation images to the respective eyes of the patient, (ii) producing a series of test images viewable by only one of the patient's eyes, (iii) operating a computer to generate the fixation images and the test images, (iv) operating the computer to record the patient's responses to the test images to produce a set of raw data, and (v) operating the computer to analyze the raw data to map scotomas of the patient's visual field.

Claim 17 distinguishes over Ron because Ron neither discloses nor suggests a method for testing the visual field of a patient to map scotomas of the patient's visual field. Ron's apparatus and methodology do not produce test data that can be analyzed to map scotomas of the patient's visual field. All of the stimuli in Ron's method are close to the patient's center of vision, since the invention proposes to provide glasses for reading. Ron's invention is directed to measuring "dark vergence" with two eyes, not visual field tests, to prescribe special prism glasses that let a patient look at a computer screen for a long time without fatigue.

Claim 17 further distinguishes over the prior art particularly as represented by Ron for the reason that Ron does not disclose or suggest presenting stereoscopic or binocularly displaced fixation images to the respective eyes of the patient during a test determining scotomas of the patient's visual field. Incidentally, although Braeuning discloses a campimeter, there is no suggestion in that reference of presenting *stereoscopic or binocularly displaced* fixation images to the respective eyes of the patient during a test determining scotomas of the patient's visual field.

Accordingly, claim 17 distinguishes over the prior art relied on by the Examiner.

Claim 25 The rejection of claim 25 under 35 U.S.C. § 102(b) is moot owing to the cancellation of claim 25 herein.

Claim 26 As set forth in independent claim 26, a method for testing the visual field of a patient comprises (1) presenting a fixation image to at least one eye of a patient, (2) producing a series of test images viewable by the eye, (3) operating a computer to generate the fixation image and the test images, (4) recording the patient's responses to the test images, and (5) analyzing the patient's response to the test images to map scotomas of the patient's visual field, the presenting of the fixation image and the producing of the test images including the projection of video images from video displays onto at least one screen.

Claim 26 distinguishes over Ron in part because Ron neither discloses nor suggests a method for testing the visual field of a patient to map scotomas of the patient's visual field. Ron's apparatus and methodology do not produce test data that can be analyzed to map scotomas of the patient's visual field. All of the stimuli in Ron's method are close to the patient's center of vision, since the invention proposes to provide glasses for reading. Ron's invention is directed to measuring "dark vergence" with two eyes, not visual field tests, to prescribe special prism glasses that let a patient look at a computer screen for a long time without fatigue.

Claim 26 further distinguishes over the prior art, particularly Ron and Braeuning, because those references neither disclose nor suggest, in a visual field testing method, the presenting of a fixation image and the producing of the test images by projecting video images from video displays onto at least one screen.

Claim 27 As recited in amended independent claim 27, a method for testing the visual field of a patient comprises (A) presenting a fixation image to an eye of a patient, (B) producing a series of test images to the patient, (C), recording the patient's responses to the test images, and (D) analyzing the patient's response to the test images to map scotomas of the patient's visual field, wherein the fixation image is substantially brighter than the test images, the test images being produced on a display, the presenting of the fixation image including (a) moving a light source separate from the display from a first position out of optical alignment with the display to a position in optical alignment with the display and the eye, and (b) energizing the light source.

Haines is the only reference that discloses a separate light source for generating a fixation image. However, there is nothing in Haines that suggests the fixation image source be movable from a first position out of optical alignment with the display to a position in optical alignment with the display and the eye. One of ordinary skill in the art would have the fixation sources either stationary behind the screen (30) or stationary in front of the screen, as taught by Haines.

The claim amendments, if any, made herein are made without prejudice to applicants' right to pursue additional subject matter in a separate continuation or divisional application.

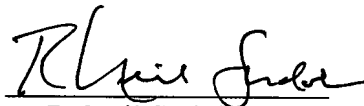
Conclusion

For the foregoing reasons, independent claims 1, 13, 17, 26, 27, and 33, as well as the claims dependent therefrom, are deemed to be in condition for allowance. An early Notice to that effect is earnestly solicited.

Should the Examiner believe that direct contact with applicant's attorney would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the number below.

Respectfully submitted,

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